

# MIL-SM801xx

## Managed 9 Port Switch

Eight 10/100BASE-TX Ethernet ports  
With  
One fixed 100BASE-FX port

## USER GUIDE





**Regulatory Approval**

- FCC Class A
- UL 1950
- CSA C22.2 No. 950
- EN60950
- CE
  - EN55022 Class A
  - EN55024

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Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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- EN55022 (CISPR 22) - Radio Frequency Interference
- EN61000-X - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

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- Date of purchase
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## 1. Introduction

In today's society, the ability to communicate quickly and share important data is essential to our lifestyle. Computer networks have proven to be one of the fastest methods of communication.

The MIL-SM801XX series are compact desktop size switches that are ideal solutions for small, medium and enterprise networks. The switch provides wire-speed switching with high-performance, and low-cost connections. Using the store-and-forward switching method, this switch can auto-learn and store up to 8K worth of MAC addresses.



Figure 1-1. The MIL-SM801XX

The MIL-SM801xx switch provides eight-switched auto-sensing 10/100 Mbps RJ-45 Ethernet ports plus one 100Base-FX fiber port. The switch will automatically detect the speed of the device that you plug into, allowing you to use both 10 and 100Mbps devices. The 10Mbps bandwidth will accommodate 10Mbps workgroup hubs while simultaneously providing the 100Mbps bandwidth needed to accommodate multimedia applications. In addition, each RJ-45 port supports **Auto MDI/MDIX** for easy installation.

The MIL-SM801XX switch provides one 100Base-FX fiber port. There are 4 types of fiber connectors available on the switch. These fiber connectors are SC, ST, MT-RJ, VF-45 (multi-mode) and SC (single-mode). The fiber port can be used to connect to a remote site up to 2 kilometers (multi-mode) or 15~60 kilometers (SC single-mode).

The MIL-SM801XX includes built in **Web-based Management**. You can easily configure and monitor the switch through your web browser. You can also use our text base console program through Telnet, Serial Console, or any SNMP management system.

## Features

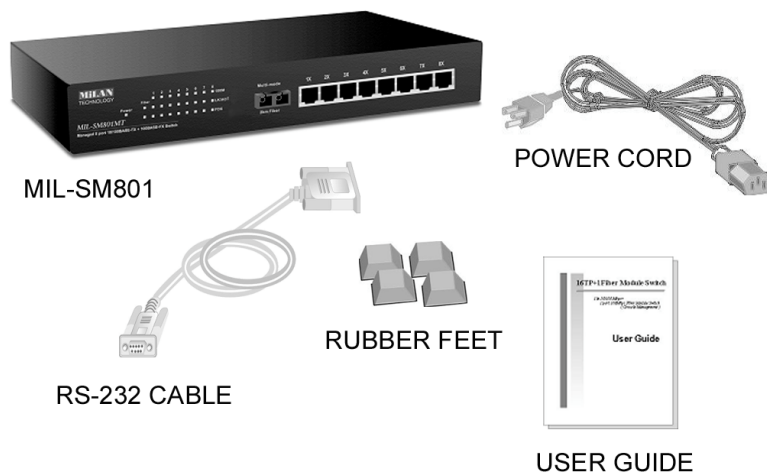
- Conforms to IEEE 802.3, 802.3u, and 802.3x Ethernet Standards
- Eight auto-sensing 10/100Mbps Ethernet RJ-45 ports
- Automatic MDI/MDIX crossover for each 10Base-T/ 100Base-TX port
- One fixed 100Mbps fiber port
- One RS-232 for Serial Console management
- Half-duplex mode for back pressure, and full-duplex for flow control
- Store-and-forward switching architecture for abnormal packet filtering
- Automatic address learning, address migration
- 8K-entry MAC address table
- 512KB memory buffer sharing
- Performs non-blocking full wire speed (1.8Gbps)
- LED-indicators for Power, 100M, LK/ACT, FD/COL
- 10-inch desktop size design

## Intelligent Management Features

- Web-based management
- SNMP network management
- Console management
- Supports nine port based VLAN groups and support for multiple VLANs on a port
- Port Trunking ( Up to 4 ports ---800Mbps cascade )
- MIB II ( RFC1213 ) supported
- Port Configuration
- Port Disable/Enable Setting
- Auto-negotiation, 100 Full/half-duplex, or 10 Full/half-duplex mode

## Package Contents

- MIL-SM801XX
- Power cord
- Four rubber feet
- RS-232 cable for console port
- User Guide



*Figure 1-2. Package Contents*

Compare the contents of your MIL-SM801XX package with the standard checklist above. If any item is missing or damaged, please contact your local dealer for service.

## Ethernet Switching Technology

Ethernet Switching Technology dramatically boosted the total bandwidth of a network, eliminated congestion problems inherent with Carrier Sense Multiple Access with Collision Detection protocol, and greatly reduced unnecessary transmissions.

Switches have revolutionized the network world in three major ways. First, by using a switch you can have two-way, simultaneous transmissions over the same port (full duplex), essentially doubling the bandwidth. Second, by reducing the collision domain to a single switched-port “Carrier Sensing” is eliminated. Third, using store-and-forward switching, unnecessary transmissions can be eliminated to avoid congestion.

Auto-negotiation regulates the speed and duplex of each port, based on the capability of both devices. Flow-control allows transmission from a 100Mbps node to a 10Mbps node without loss of data. You may need to disable auto-negotiation and flow control for some networking operations involving legacy equipment. Disabling the auto-negotiation is accomplished by fixing the speed or duplex of a port.

## Management Methods

The MIL-SM801XX series supports the following management methods:

- Console and Telnet Management
- Web-based Management
- SNMP Network Management

### Console and Telnet Management

Console Management is done through the serial Console Port. This method requires a direct connection between a PC and the MIL-SM801XX. Telnet management is done over the network. Once the MIL-S801XX has an assigned IP address and is on the network, you can use Telnet to login and make configuration changes.

### Web-based Management

The switch provides an embedded HTML web site residing in flash memory. It offers advanced management features and allows users to manage the MIL-SM801XX from anywhere on the network through a standard browser such as *Microsoft Internet Explorer* or *Netscape Navigator*. For more information, see chapter 6.

### SNMP Network Management

SNMP (Simple Network Management Protocol) provides a way to monitor and control network devices, and to manage configurations, statistic collection, performance, and security.



## 2. Hardware Description

This section describes the hardware of the MIL-SM801XX series. The switch is compact in size with eight auto-sensing 10/100Mbps Ethernet RJ-45 ports and one 100Base-FX fiber port.

### Front Panel

The front panel of the MIL-SM801XX series consists of eight auto-sensing 10/100Mbps Ethernet RJ-45 ports (automatic MDI/MDIX), one 100Base-FX fiber port, and LED indicators.

Different front panels of the MIL-SM801XX series are illustrated below. There are four different types of fiber connectors available for the convenience of your connectivity. These fiber connectors are SC, (SC single-mode), ST, MT-RJ and VF-45.

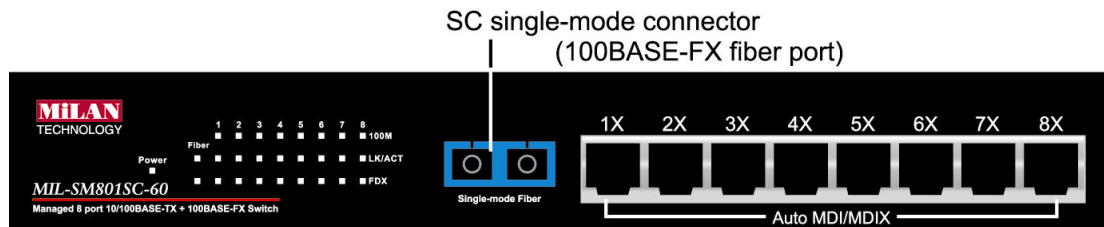


Figure 2-3. The Front Panel of the MIL-SM801XX with SC (single mode) connector

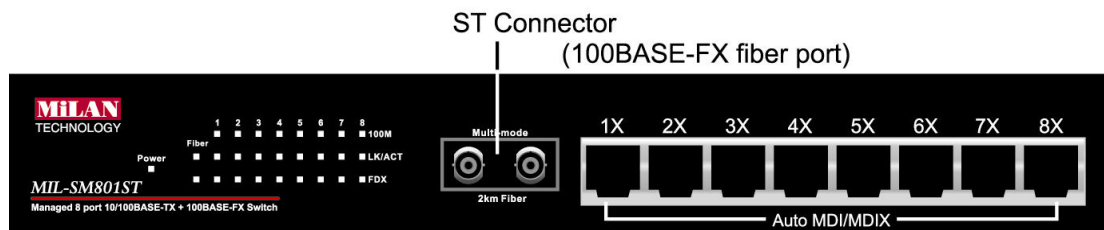


Figure 2-4. The Front Panel of the MIL-SM801XX with ST connector

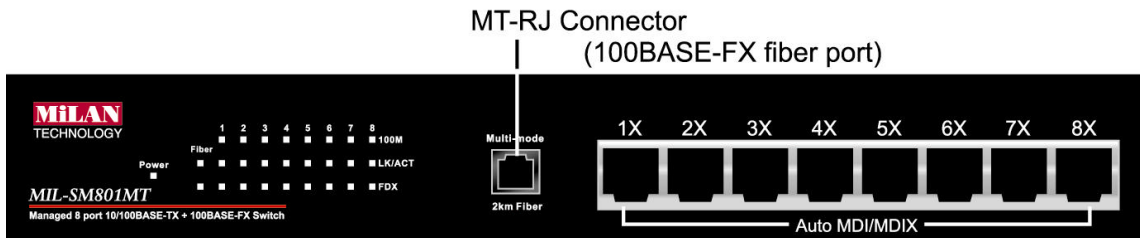


Figure 2-5. The Front Panel of the MIL-SM801XX with MT-RJ connector

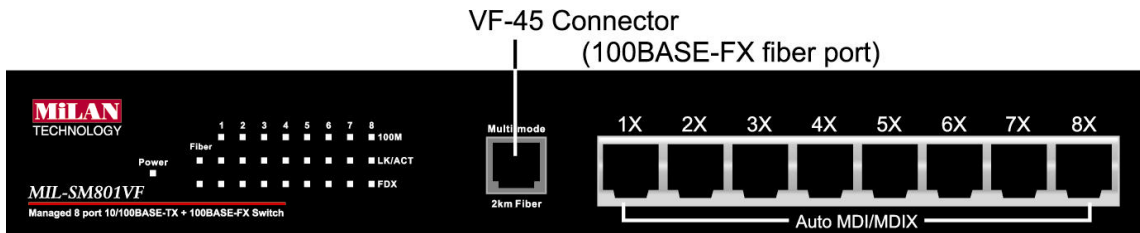


Figure 2-6. The Front Panel of the MIL-SM801XX with VF-45 connector

- **RJ-45 Ports (Auto MDI/MDIX):** Eight 10/100 auto-sensing for 10Base-T or 100Base-TX connections. MDI configuration provides the means to connect to another hub or switch while MDIX provides connection to a workstation or PC.
- **100Base-FX Fiber Port:** There are four connectors available for the MIL-SM801XX as shown above. The distance for multi-mode fiber cabling can be up to 2 kilometers, whereas the distance for SC single-mode fiber can be up to 60 kilometers.

## LED Indicators

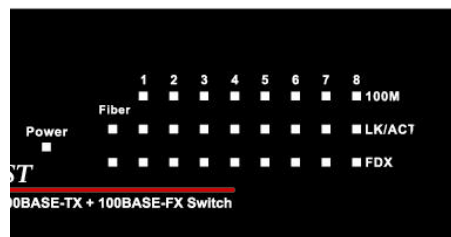


Figure 2-7. Detail of LED Indicators

There are three LED-indicators (100M, LNK/ACT, FDX/COL) for each UTP port. The following table provides descriptions of the LED indicators. They provide a real-time indication of operational status.

LED	Status	Color	Description
<b>Power</b>	On	Green	Power On
<b>100M</b>	On	Green	The port is operating at the speed of 100Mbps
	Off		In 10Mbps mode or no device attached
<b>LNK / ACT</b>	On	Green	The port is successfully connected to a device
	Blinks	Green	The port is receiving or transmitting data
	Off		No device attached
<b>FDX / COL</b>	On	Amber	The port is operating in full-duplex mode
	Blinks	Amber	Collisions are occurring on the port
	Off		Half-duplex mode or no device attached

Table 2-1. Description of LED Indicators

## Rear Panel

The 3-pronged power plug is located at the rear panel of the MIL-SM801XX as shown in Figure 2-8. The switch will work with AC in the range of 100-240V AC, 50-60Hz.



Figure 2-8 The Rear Panel of the MIL-SM801XX

## Desktop Installation

Set the switch on a sufficiently large flat space with a power outlet nearby. The surface should be clean, smooth, level, and sturdy. Make sure there is enough clearance around the switch to allow for air circulation and the attachment of cables and power cord.

### Attaching Rubber Feet

- A. Make sure mounting surface on the bottom of the switch is grease and dust free.
- B. Remove adhesive backing from the rubber feet.
- C. Apply the rubber feet to each corner on the bottom of the switch. These footpads can protect the switch from shock/vibration.



*Figure 2-9. Attaching rubber feet to the bottom of the switch*

### 3. Network Configuration

This section explains how to configure console management using the console management program.

Console management involves the administration of the switch via a direct connection to the RS-232 console port, which has a female DB-9 connector. From the main menu of the console program, user has access to manage the functions of the switch.

#### Connecting a Terminal or PC to the Console Port

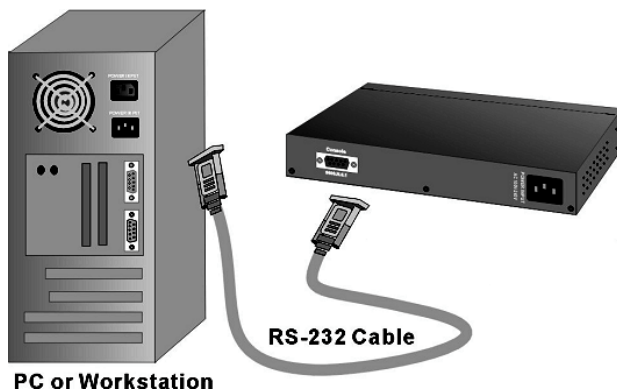


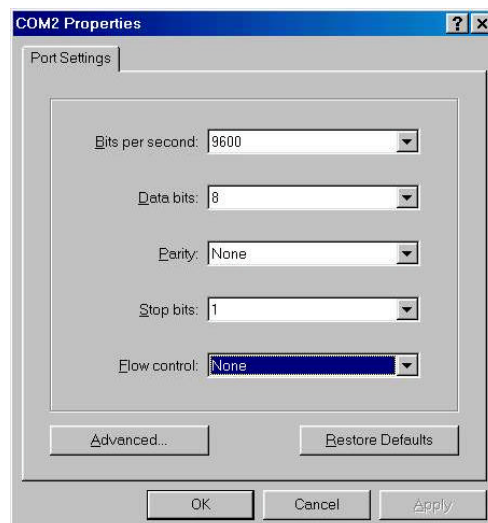
Figure 3-1. Connecting the MIL-SM801XX to a terminal via RS-232 cable

Use the supplied RS-232 cable to connect a terminal or PC to the console port. The terminal or PC to be connected must support the terminal emulation program.

After connecting the switch via the RS-232 cable, run a **terminal emulation program** or **Hyper Terminal** to match the following default characteristics of the console port:

**Baud Rate: 9600 bps**  
**Data Bits: 8**  
**Parity: none**  
**Stop Bit: 1**  
**Control flow: None**

Figure 3-2.  
The settings of communication parameters



*Note: Console program is case sensitive.*

After you have finished setting parameters, press the “**Enter**” Key and the Main Menu of console management appears.

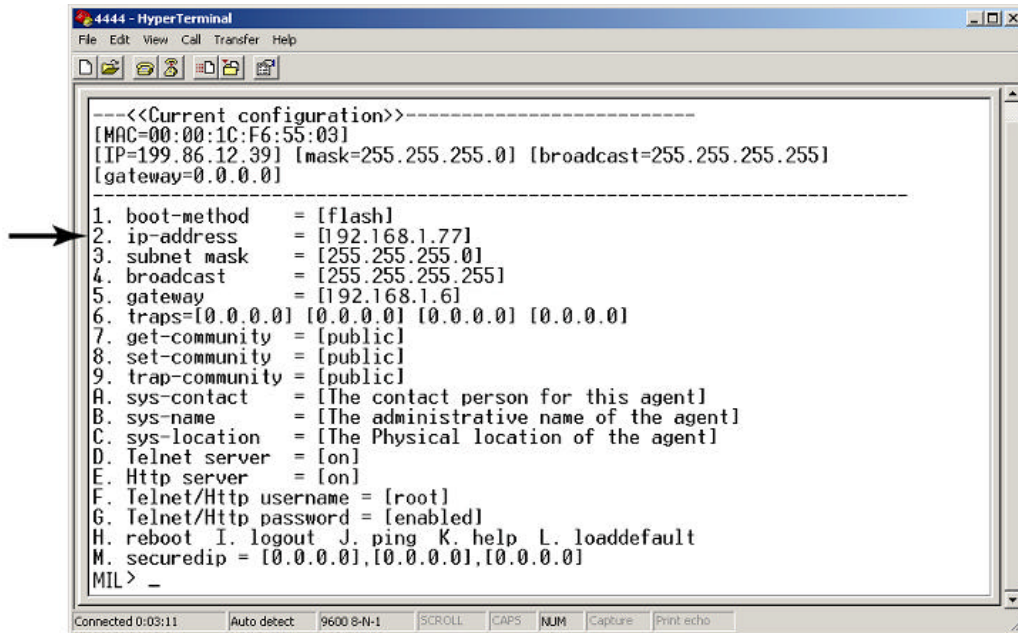


Figure 3-3. The Main Menu of Console Management

## Assigning an IP Address to the switch

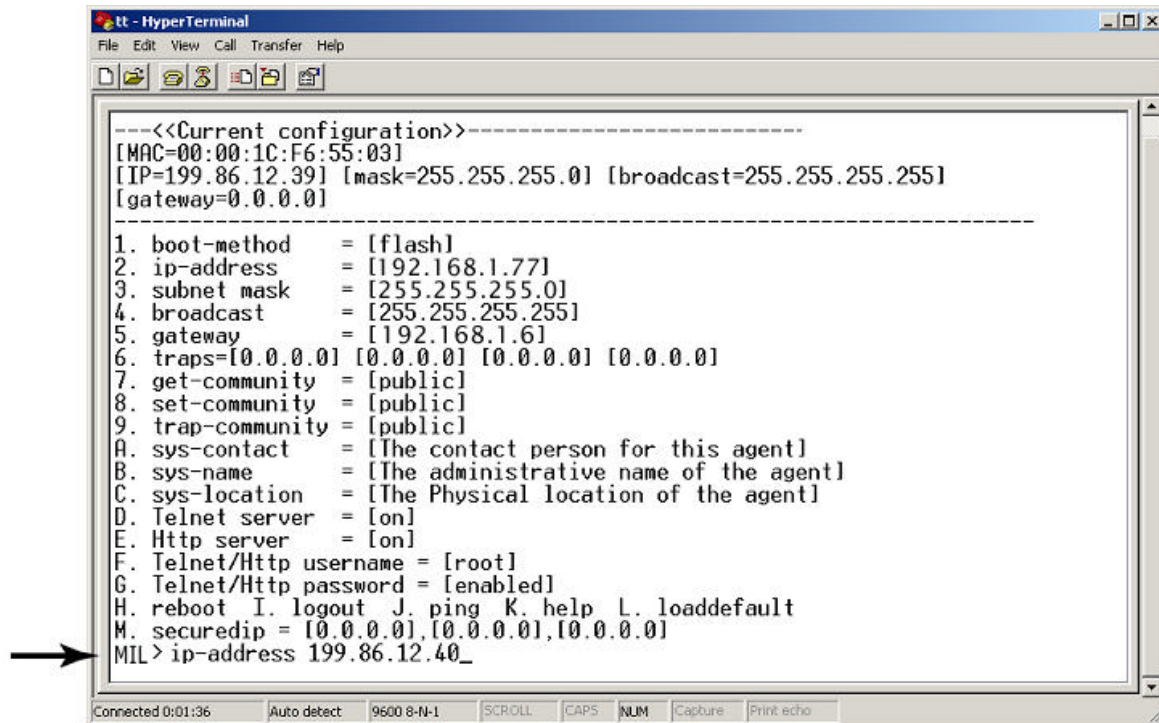
Once you have logged into the MIL-SM801XX, you need to assign an IP address to the switch’s Ethernet interface so that you can connect to the switch using a Web Browser.

1. From the Main Menu of the console, select Item 1 by typing in “**1**” after the prompt and press **Enter**. You must select the appropriate **Boot Method** --- Flash, BOOTP, or DHCP (For more information, see Web-based Management – Agent Config ).
2. There are three command options to change the IP Address (the initial Default IP address is **192.168.1.77**). For example, if you wanted to change the IP address to 199.86.12.40, you could type one of the following at the MIL prompt:

```
MIL> ip-address 199.86.12.40
MIL> 2 199.86.12.40
MIL> ip 199.86.12.40
```

**Note:** After typing in the command press **Enter** twice.

3. You will now find that the default IP address has been changed to IP address 192.168.12.40. Reboot by typing “**reboot**” or “**H**”.
4. By similar methods, you can configure Subnet Mask (default subnet Mask is 255.255.255.0), Broadcast (default Broadcast is 255.255.255.255), and Gateway (default Gateway is 192.168.1.6). The gateway address is the router that can forward packets to the other IP networks.



```
---<<Current configuration>>-----
[MAC=00:00:1C:F6:55:03]
[IP=199.86.12.39] [mask=255.255.255.0] [broadcast=255.255.255.255]
[gateway=0.0.0.0]
-----
1. boot-method      = [flash]
2. ip-address       = [192.168.1.77]
3. subnet mask      = [255.255.255.0]
4. broadcast        = [255.255.255.255]
5. gateway          = [192.168.1.6]
6. traps=[0.0.0.0] [0.0.0.0] [0.0.0.0] [0.0.0.0]
7. get-community    = [public]
8. set-community     = [public]
9. trap-community    = [public]
A. sys-contact      = [The contact person for this agent]
B. sys-name         = [The administrative name of the agent]
C. sys-location     = [The Physical location of the agent]
D. Telnet server    = [on]
E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [0.0.0.0],[0.0.0.0],[0.0.0.0]
MIL> ip-address 199.86.12.40_
```

Figure 3-4. Changing IP address by typing in “ip-address 199.86.12.40 ” after the prompt .



tt - HyperTerminal

File Edit View Call Transfer Help

[IP=199.86.12.39] [mask=255.255.255.0] [broadcast=255.255.255.255]  
[gateway=0.0.0.0]

---

```

1. boot-method      = [flash]
2. ip-address       = [192.168.1.77]
3. subnet mask      = [255.255.255.0]
4. broadcast        = [255.255.255.255]
5. gateway          = [192.168.1.6]
6. traps=[0.0.0.0] [0.0.0.0] [0.0.0.0] [0.0.0.0]
7. get-community    = [public]
8. set-community     = [public]
9. trap-community    = [public]
A. sys-contact      = [The contact person for this agent]
B. sys-name         = [The administrative name of the agent]
C. sys-location     = [The Physical location of the agent]
D. Telnet server    = [on]
E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [0.0.0.0],[0.0.0.0],[0.0.0.0]
MIL> ip-address 199.86.12.40
Need to reboot the agent to take effect.
MIL> reboot_

```

Connected 0:02:34 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

Figure 4-5. Execute reboot

tt - HyperTerminal

File Edit View Call Transfer Help

---<<Current configuration>>-----

```

[MAC=00:00:1C:F6:55:03]
[IP=199.86.12.40] [mask=255.255.255.0] [broadcast=255.255.255.255]
[gateway=0.0.0.0]

```

---

```

1. boot-method      = [flash]
2. ip-address       = [199.86.12.40]
3. subnet mask      = [255.255.255.0]
4. broadcast        = [255.255.255.255]
5. gateway          = [192.168.1.6]
6. traps=[0.0.0.0] [0.0.0.0] [0.0.0.0] [0.0.0.0]
7. get-community    = [public]
8. set-community     = [public]
9. trap-community    = [public]
A. sys-contact      = [The contact person for this agent]
B. sys-name         = [The administrative name of the agent]
C. sys-location     = [The Physical location of the agent]
D. Telnet server    = [on]
E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [0.0.0.0],[0.0.0.0],[0.0.0.0]
MIL> _

```

Connected 0:03:27 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

Figure 3-6. After pressing Enter twice, you will find the old IP address has changed into new IP address.

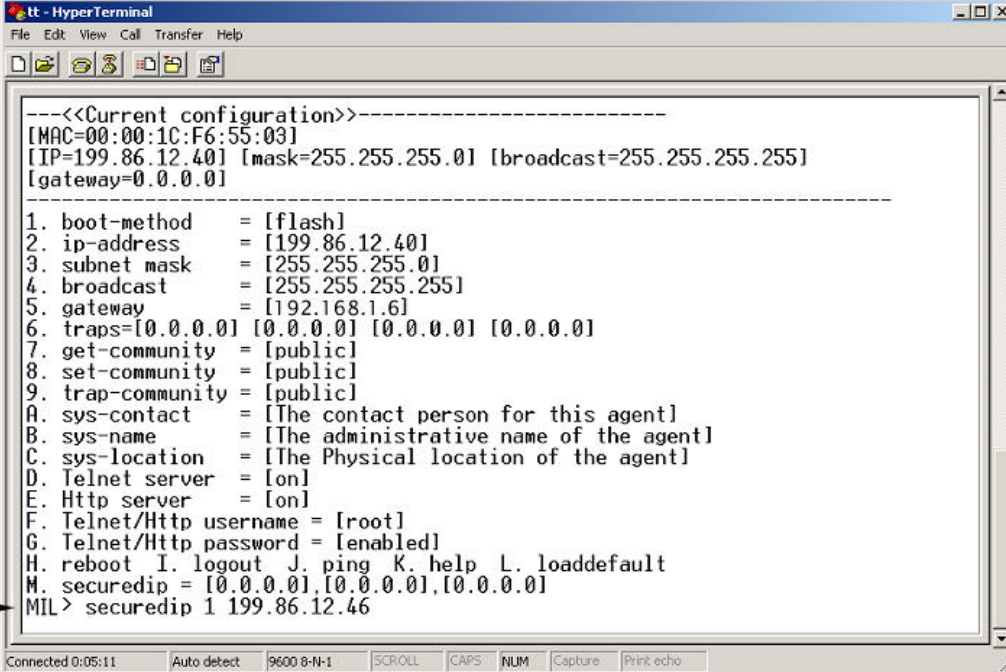
**Note:** After any setting changes, reboot. Use the ping command for verification.



## Secured IP

**Secured IP** can guard against unauthorized users accessing the switch management. Network security for IP access allows only one IP address or up to 3 IP addresses to access the web based management server and telnet server.

The Default Secured IP is **0.0.0.0** for all three secured IP, which means that no network security on IP was set from original factory setting. Now, if you want to set Secured IP, for example, you can type in “**securedip 1 199.86.12.46**” after the prompt press **Enter** twice. The first Secured IP has been registered. Only the end station with IP **192.168.1.27** has access to the network management.



```
---<<Current configuration>>-----
[MAC=00:00:1C:F6:55:03]
[IP=199.86.12.40] [mask=255.255.255.0] [broadcast=255.255.255.255]
[gateway=0.0.0.0]
-----
1. boot-method      = [flash]
2. ip-address       = [199.86.12.40]
3. subnet mask      = [255.255.255.0]
4. broadcast         = [255.255.255.255]
5. gateway           = [192.168.1.6]
6. traps=[0.0.0.0] [0.0.0.0] [0.0.0.0] [0.0.0.0]
7. get-community    = [public]
8. set-community     = [public]
9. trap-community    = [public]
A. sys-contact      = [[The contact person for this agent]
B. sys-name         = [[The administrative name of the agent]
C. sys-location     = [[The Physical location of the agent]
D. Telnet server    = [on]
E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [0.0.0.0],[0.0.0.0],[0.0.0.0]
MIL> securedip 1 199.86.12.46
```

Figure 3-7. Type in “securedip 1 199.86.12.46” after the prompt in order to set the first secured IP.

```

tt - HyperTerminal
File Edit View Call Transfer Help

---<<Current configuration>>-----
[MAC=00:00:1C:F6:55:03]
[IP=199.86.12.40] [mask=255.255.255.0] [broadcast=255.255.255.255]
[gateway=0.0.0.0]

-----
1. boot-method      = [flash]
2. ip-address       = [199.86.12.40]
3. subnet mask      = [255.255.255.0]
4. broadcast        = [255.255.255.255]
5. gateway          = [192.168.1.6]
6. traps=[0.0.0.0] [0.0.0.0] [0.0.0.0] [0.0.0.0]
7. get-community    = [public]
8. set-community     = [public]
9. trap-community    = [public]
A. sys-contact      = [The contact person for this agent]
B. sys-name         = [The administrative name of the agent]
C. sys-location     = [The Physical location of the agent]
D. Telnet server    = [on]
E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [199.86.12.46],[0.0.0.0],[0.0.0.0]
MIL> _

```

Connected 0:07:17 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

Figure 3-8. After pressing Enter twice, the first secured IP address is set to 199.86.12.46.

## Resetting Factory Defaults

You can reset the switch back to factory default settings by using the **loaddefault** command. Simply type **L 2** at the **MIL>\_** prompt and press enter.

**Note:** If you do not type **L 2**, and only type **L**, the following option appears:

**Usage: loaddefault (0:1:2).**

The only correct option is **L 2** for the MIL-SM801XX.

```

801 - HyperTerminal
File Edit View Call Transfer Help

E. Http server      = [on]
F. Telnet/Http username = [root]
G. Telnet/Http password = [enabled]
H. reboot I. logout J. ping K. help L. loaddefault
M. securedip = [0.0.0.0],[0.0.0.0],[0.0.0.0]
>>>> L
Usage: loaddefault (0:1:2).
>>>> L 2

```

Connected 2:16:20 Auto detect 9600 8-N-2 SCROLL CAPS NUM Capture Print echo

## 4. Web-Based Management

This section introduces the configuration and functions of the Web-based management for the MIL-SM801XX series.

The MIL-SM801XX series provides an embedded HTML website residing in flash memory. It offers management features and allows users to manage the MIL-SM801XX from anywhere on the network through a standard Web Browser.

### System Login

1. Start browser.
2. Type in the IP Address of MIL-SM801XX after “http:// ”. Then press **Enter** button.
3. The following Welcome Screen appears.



Figure 4-1. The Welcome Screen

4. Click **Login** button, then the Password Dialog Box appears.



*Figure 4-2. The Password Dialogue Box*

5. Type in your User Name and Password.  
(the default is "root" for both.)
6. Click the "OK" button

## System Configuration

After you have started the **Web-Based Management** you can begin to configure the system.

Click **System** from the Main Menu to display the following screen:

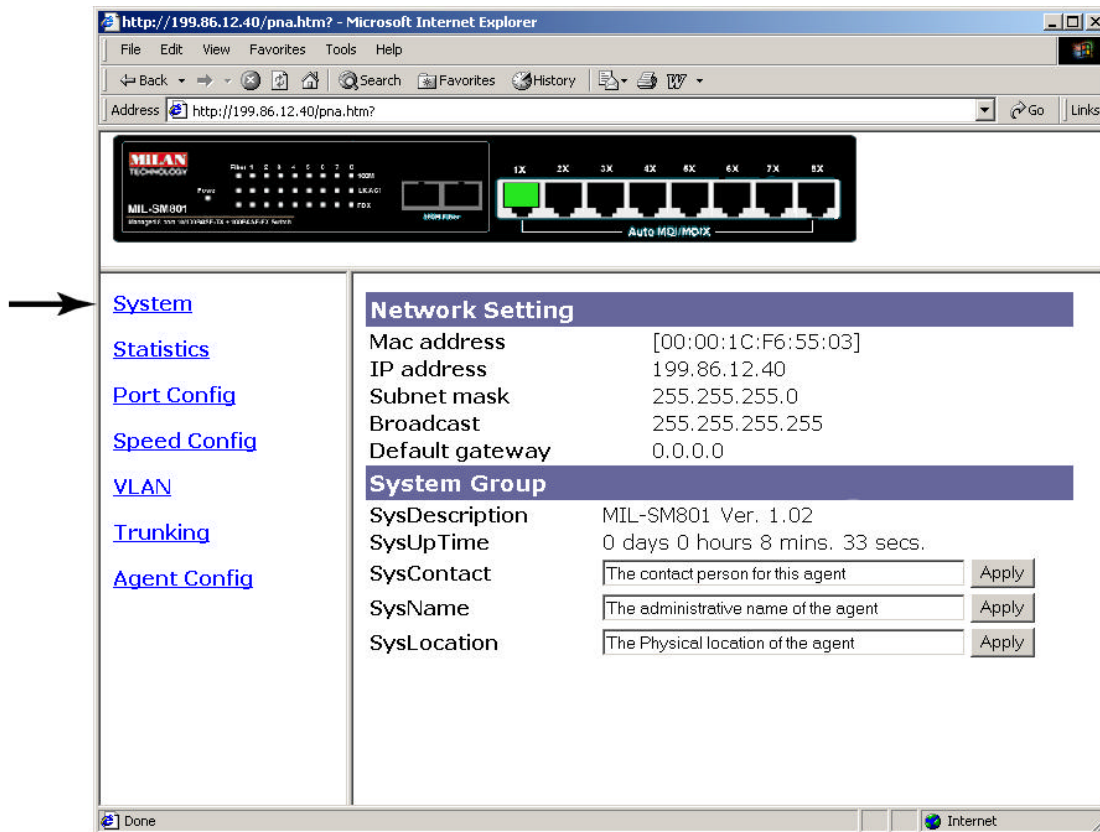


Figure 5-1. The System Page

The **System** Page displays information about the MIL-SM801XX.

### Network Setting

IP address: 199.86.12.40  
Subnet Mask: 255.255.255.0  
Broadcast: 255.255.255.255  
Default gateway: 0.0.0.0

### System Group

**SysUp Time:** MIL-SM801XX uptime.

**SysContact:** You can enter the name of the person to contact if there are problems with the MIL-SM801XX switch.

**SysName:** You can enter a name for the MIL-SM801XX.

**SysLocation:** You can enter the switch physical location.  
Example: "MiLAN BLDG 10"

## Statistics

The **Statistics** page displays detailed information for each port.

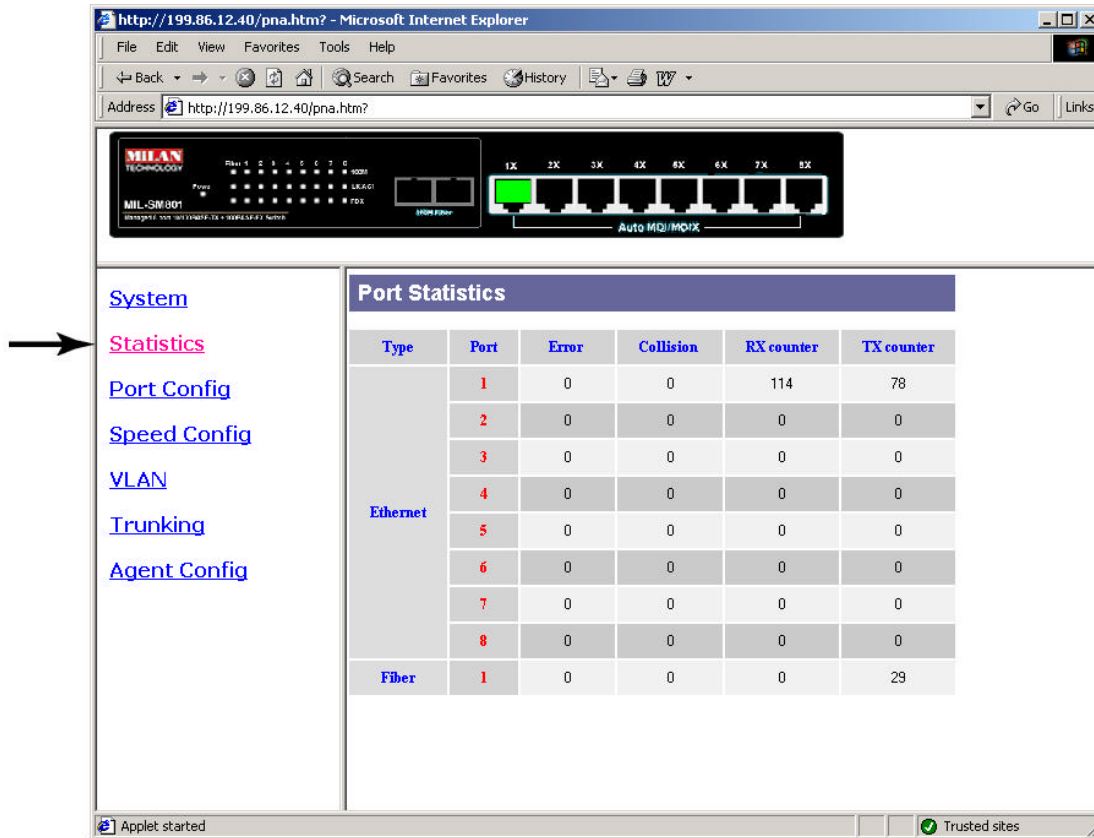


Figure 5-2. The Statistics Page

Note: Java must be enabled for statistics information to display. See Appendix settings.

## Port Configuration

You can use the Port Configuration Page to Disable / Enable ports.

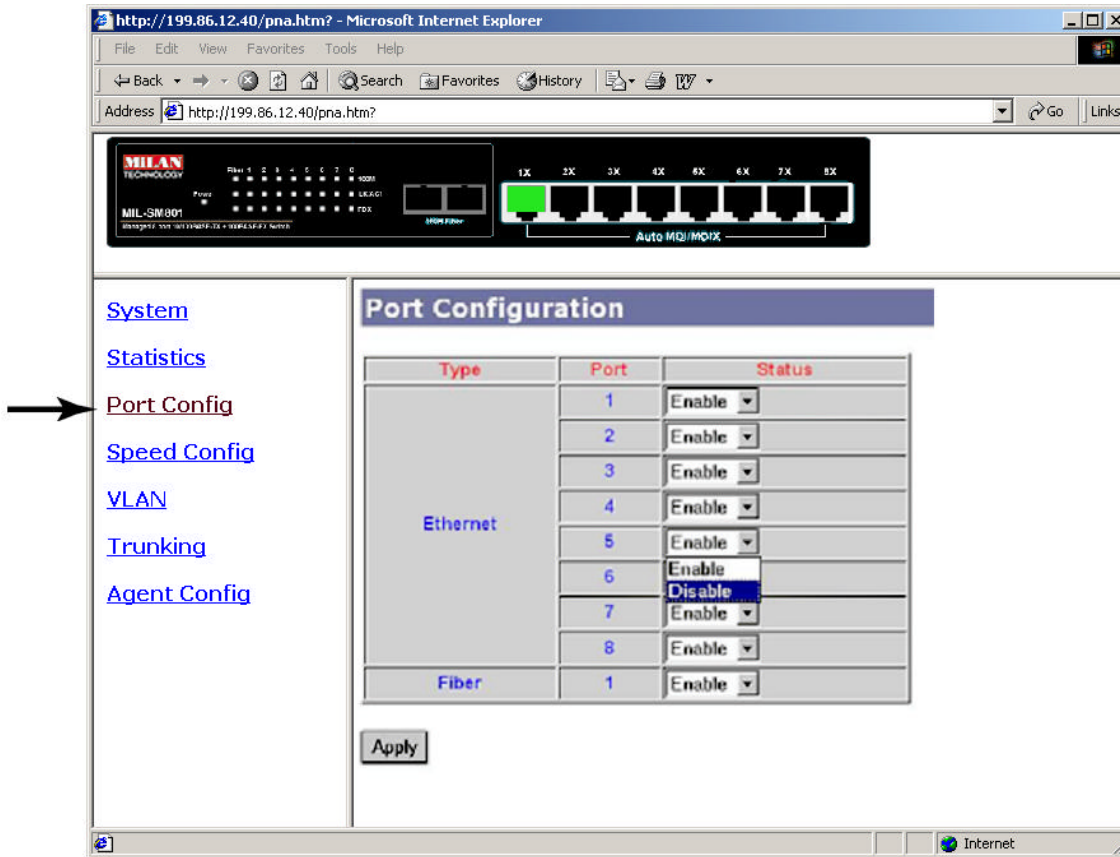


Figure 5-3. The Port Config Page. In Figure 5-3, the default of each port is Enable.

To Disable / Enable any port:

1. Select the drop-down menu in the Status Column.
2. Choose the status you want for each Ethernet or Fiber port.
3. Click **Apply** button to activate settings selected.

## Speed Config

In the **Speed Configuration Page**, you can configure the speed and duplex of each port.

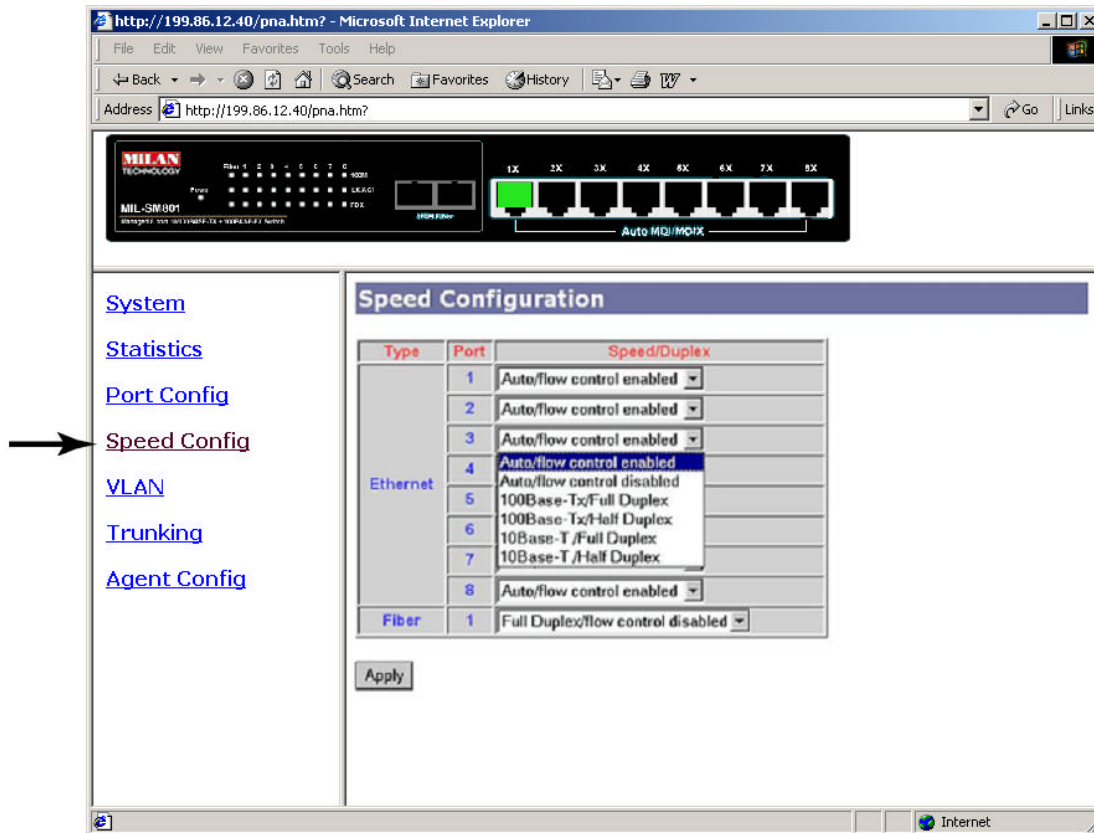


Fig. 5-4. The Speed Config Page

To select the speed parameters for a port:

1. Select the drop-down menu in Speed/Duplex Column.
2. Select one of the following 6 items: Auto/flow control enabled, Auto/flow control disabled, 100Base-Tx/Full Duplex, 100Base-Tx/Half Duplex, 10Base-T/Full Duplex, 10Base-T/Half Duplex.
3. Click Apply.



## VLANs

A LAN was originally defined as a network of computers located within the same area. Today, LANs are defined as a single broadcast domain. This means that if a user broadcasts information on his/her LAN, every user on the LAN will receive the broadcast. A VLAN (Virtual LAN) is a group of ports designated by the switch as belonging to the same broadcast domain. This feature allows workgroups to be defined on the basis of their logical location instead of their physical location.

VLANs can be used to strengthen security between the departments as well as isolating broadcast traffic to increase net bandwidth.

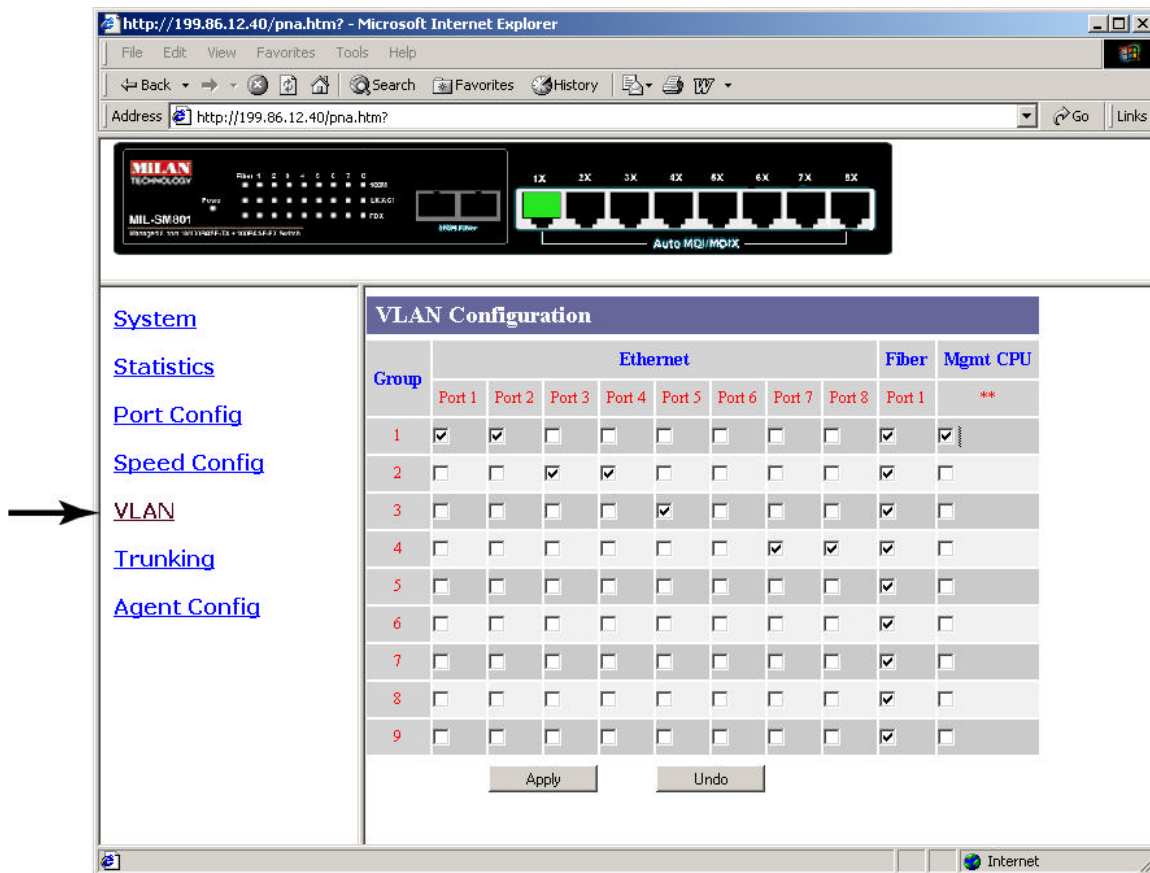
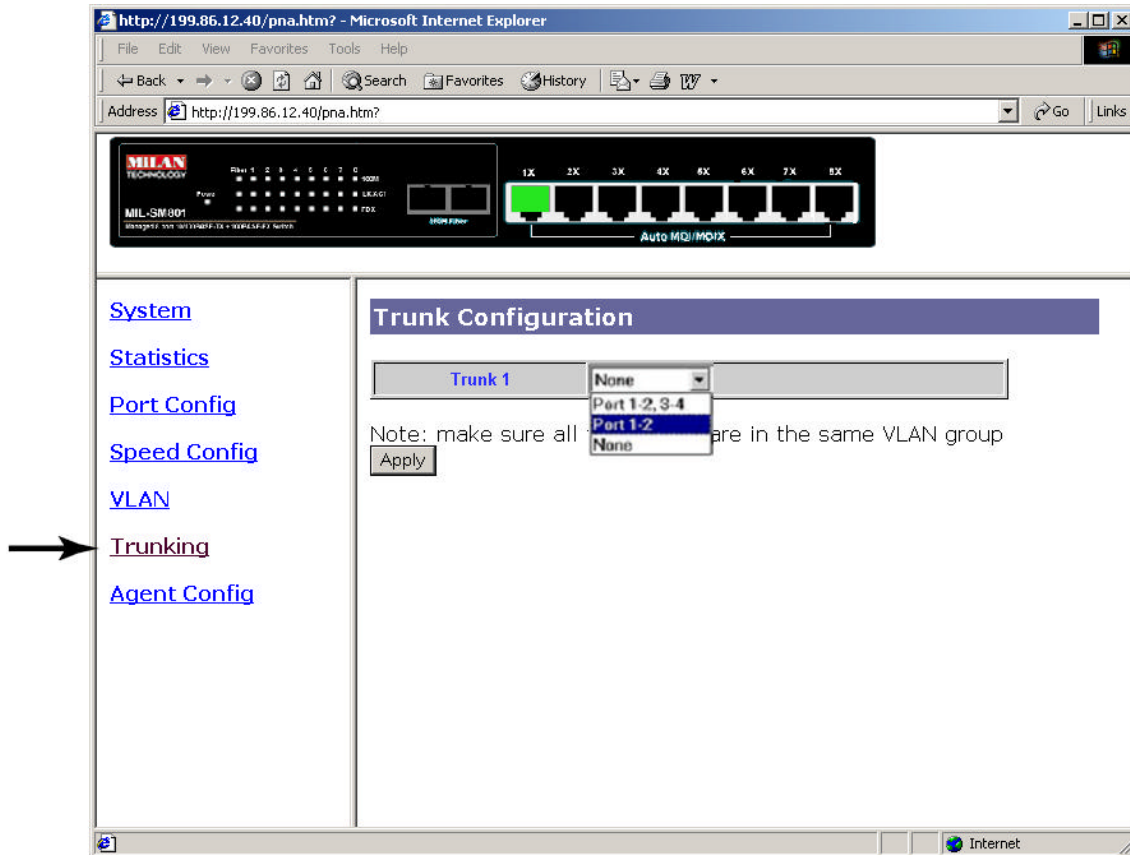


Figure 5-5. The example of VLAN setting on VLAN Page

Each port can be configured to belong to one or more of the nine VLANs by clicking on the desired group(s). By default, all ports are a member of one group. A port can be a member of more than one group.

## Trunking

Trunking allows you to create additional bandwidth by aggregating several ports into one single group.



**Figure 5-6. The Trunking Page**

From the **Trunking** page you can click the drop-down menu and select your desired trunk group. You have a choice between a 2-port trunk (ports 1&2) or 4-port trunk (ports 1, 2, 3, & 4).

Remember to click **Apply** after making your selection.

*Note: Make sure Trunking ports are in the same VLAN group.*

## Agent Config

After clicking the **Agent Configuration** page, the screen displays the MIL-SM801XX's current configuration. Refer to the following Agent Configuration page for your own settings.

Agent Configuration		
Boot-Method	flash	Apply
IPAddress	199.86.12.40	Apply
Submask	255.255.255.0	Apply
Broadcast	255.255.255.255	Apply
Gateway	193.31.103.111	Apply
Trap1	0.0.0.0	Apply
Trap2	0.0.0.0	Apply
Trap3	0.0.0.0	Apply
Trap4	0.0.0.0	Apply
GetCommunity	public	Apply
SetCommunity	public	Apply
TrapCommunity	public	Apply
Telnet-Server	on	Apply
HTTP-Server	on	Apply
Telnet/HTTP-Username	root	Apply
Telnet/HTTP-Password	root	Apply
Secured_IP1	199.86.12.46	Apply
Secured_IP2	0.0.0.0	Apply

Figure 5-7. The Agent Config Page

## Boot Methods

There are three modes that you can boot your switch in ---

**FLASH Boot** – Boots from a memory chip that software images can be stored, booted, and rewritten as necessary. Flash memory resides in a chip and holds its content without power.

**BootP** - Boots your system from a BootP (Bootstrap Protocol) server. BootP is a TCP/IP protocol used by a diskless workstation or network computer to obtain its IP address and other network information such as server address and default gateway.

**DHCP Boot** – Boots your system from a DHCP (Dynamic Host Configuration Protocol) server. DHCP servers can automatically assign IP addresses to client stations logging onto a TCP/IP network.

The following are the initial factory values. You can change the information by entering new information. (For example, you can change the MIL-SM801XX's IP address by directly typing in new IP address.) Then click **Apply** after entering the information.

Boot-Method: flash  
IP address: 193.31.103.7 (192.168.1.77)  
Submask: 255.255.255.0  
Broadcast: 255.255.255.255  
Gateway: 192.168.1.6  
Trap1: 0.0.0.0  
Trap2: 0.0.0.0  
Trap3: 0.0.0.0  
Trap4: 0.0.0.0  
GetCommunity: public  
SetCommunity: public  
TrapCommunity: public  
Telnet/HTTP-Username: root  
Telnet/HTTP-Password: root  
Secured\_IP1: 0.0.0.0  
Secured\_IP2: 0.0.0.0  
Secured\_IP3: 0.0.0.0

Remember to click the **Reboot Agent** button for changes to take effect.

Note: SNMP traps are only sent after a cold start.

## 6. Technical Specifications

The following table lists the specifications of the MIL-SM801XX series.

### Specifications

<b>Standards Compliance</b>	IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX/FX Fast Ethernet ANSI/IEEE 802.3 Auto-negotiation
<b>Protocol</b>	CSMA/CD
<b>Max Forwarding and Max Filtering Rate</b>	14,880 pps per Ethernet port 148,800 pps per Fast Ethernet port
<b>LED Indicators</b>	Per Port: (10/100 UTP ): 100M, LK/ACT, FD/COL ( 3 LEDs ) Fiber Port: 100M, LK/ACT, FD/COL ( 3 LEDs ) Per Unit: Power
<b>Copper Network Cables</b>	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm ( 100m ) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm ( 100m )
<b>Fiber Link Max. Distance</b>	ST/SC/MT-RJ/VF-45 Multi-mode: Half-duplex: 412m, Full-duplex: 2Km SC Single-mode: Half-duplex: 412m, Full-duplex: 15~60Km
<b>Dimensions</b>	250mm x 132mm x 37mm (9.8" x 5.2" x 1.5")
<b>Weight</b>	1080 ±20 g 2.4lbs
<b>Storage Temp.</b>	-40°C to 70°C ( -40°F to 158°F)
<b>Operational Temp.</b>	0°C to 45°C ( 32°F to 113°F )
<b>Operational Humidity</b>	10% to 90% (Non-condensing)
<b>External Power</b>	100-240V AC, 50-60Hz
<b>Power Consumption</b>	17 Watts ( Max )
<b>EMI</b>	FCC Class A, CE Mark
<b>Safety</b>	UL, cUL

## 7. Troubleshooting

This section is intended to help you resolve the most common problems on the MIL-SM801XX series.

### Incorrect connections

- **Faulty or loose cables**

Look for loose or obviously faulty connections. Make sure the connections are snug. If that does not correct the problem, try a different cable.

- **Non-standard cables**

Non-standard or incorrectly pinned cables may cause anything from network collisions to no network connectivity at all. A category 5 cable tester is recommended during your network installation.

- **Improper Network Topologies**

It is important to make sure that you have a valid network topology. Common topology faults include excessive cable length and too many repeaters (hubs) between end nodes. In addition, you should make sure that your network topology contains no data path loops. Between any two-end nodes, there should be only one active cabling path at any time. Data path loops will cause broadcast storms that will severely impact your network performance.

### Diagnosing LED Indicators

You can diagnose common problems by monitoring the LED indicators on the front panel of the switch. If you are having network connection issues the first place to check is the switches LED link lights. If you do not have a link light, you may have an incorrect cable type.

If the power LED does not light up when the power cord is plugged in, you may have a problem with power outlet, or power cord.

- **Cabling**

**RJ-45 ports** - Use unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for the RJ-45 connections. Use 100ohms Category 3, 4 or 5 cable for 10Mbps connections or 100ohms Category 5 cable for 100Mbps connections. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

**100Base-FX fiber port** - Fiber multi-mode connector type must use 50/125 or 62.5/125μ multi-mode fiber cable. You can connect two devices up to 2-kilometers. With single-mode fiber use 9/125μ fiber cable for multi-mode as well. You can connect two devices from 15 to ~60- kilometers in full duplex operation.

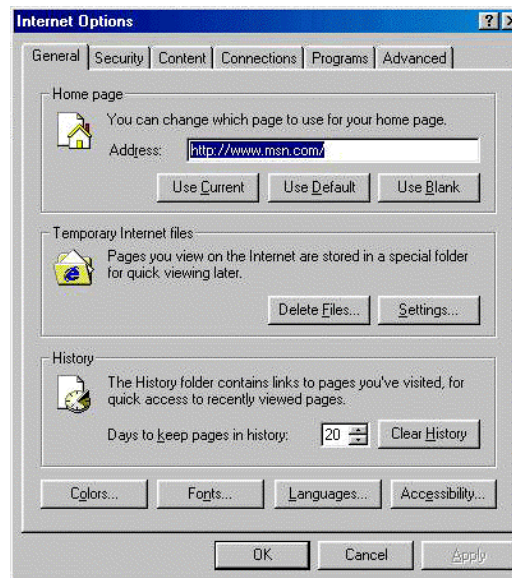
## Appendix Browser Settings

In order to view all fields when using the MIL-SM801XX **Web-based Management** with *Microsoft's Internet Explorer* you must modify the browser's Java settings. The screen shots from *Internet Explorer 5.0* will aid you in making the necessary changes.

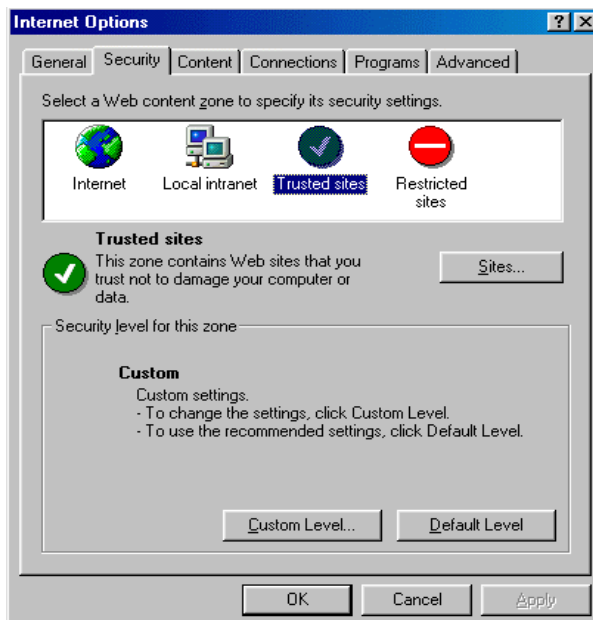
Open up Internet properties.

**Go to Start>Settings>Control panel and double click on Internet Options**

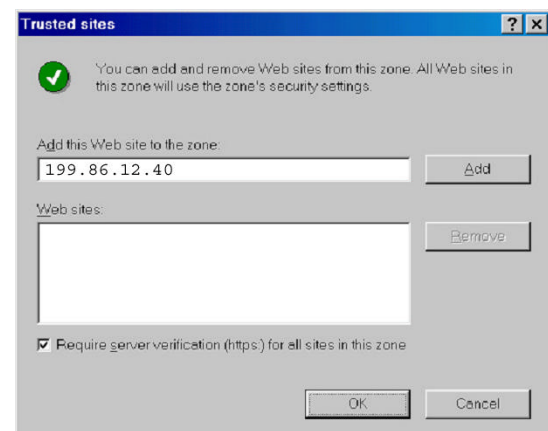
Step 1: Select the "Security" tab



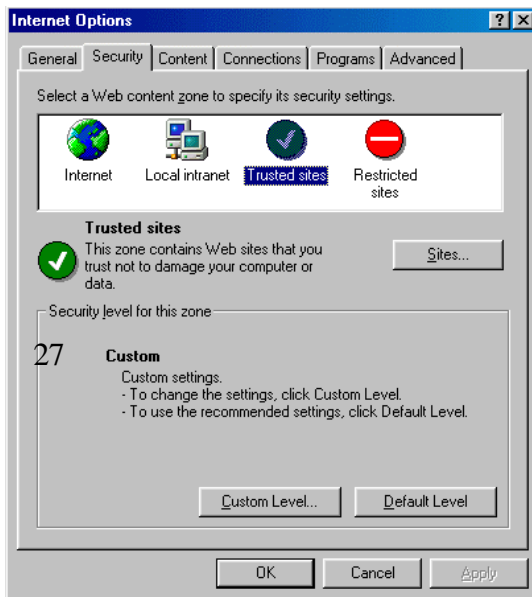
Step 2:  
Select "trusted sites "



Step 3 : Enter the assigned IP address of the MIL-SM801xx to the zone, then click " Add "

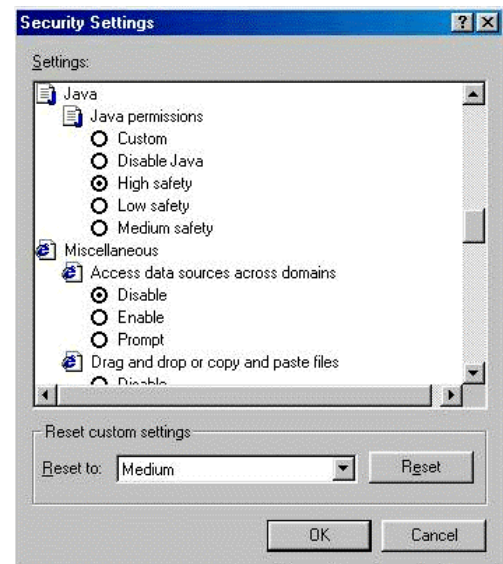


Step 4: Un-check left-bottom box –  
“Require server verification for all sites this  
zone”, then click "OK"

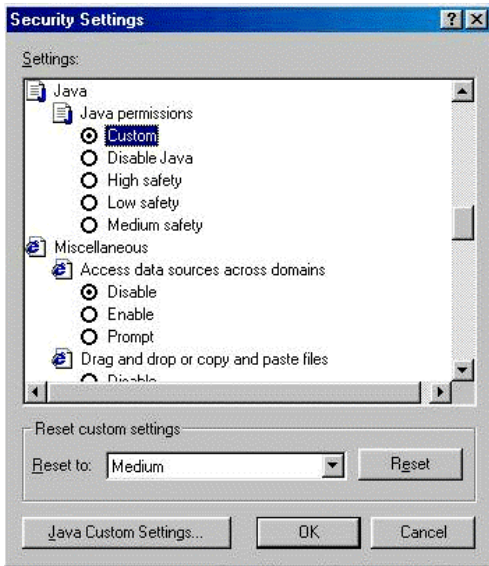


Step 5: Go back to Internet  
Options, then click “ Custom  
Level ”

Step 6: Select “ Custom ”  
under “ Java ”







Step 7: Select: Java - "Custom"

Step 8: Select "Edit Permissions" then  
"Enable" under  
"Run Unsigned Content", then click "OK".

